

What is claimed is:

1. A bidirectional line switched ring network comprising:

5 a plurality of optical transmission equipment sets connected in a ring form,

wherein optical transmission equipment provided in a node on the transmission side performs transmission to each lower-order channel by attaching a transmission-side node ID, and,

10 optical transmission equipment provided in a node on the reception side collates the received transmission-side node ID with an expected value of the transmission-side node ID having been set in advance, and when the collation does not match, the optical transmission equipment in the  
15 node on the reception side prevents a misconnection in the event of a failure by inserting an alarm indication signal.

2. The bidirectional line switched ring network according to claim 1,

20 wherein the transmission-side node ID is transmitted using the V3 byte.

3. The bidirectional line switched ring network according to claim 2,

25 wherein functions of inserting the transmission-side node ID into the V3 byte, collating with the expected value, and squelching can be set ineffective.

4. The bidirectional line switched ring network according to claim 2,

5 wherein, using the V3 bytes for three frames, the transmission-side node ID and a channel ID are additionally transmitted to each VT channel, so that the time slot interchange (TSI) of the VT channel is enabled in a pass-through node.

10 5. The bidirectional line switched ring network according to claim 4,

wherein, using the first to sixth bits of the H4 byte, the time slot interchange (TSI) is enabled in the pass-through node.

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6. The bidirectional line switched ring network according to claim 2,

wherein the transmission-side node ID is transmitted using the V4 byte, in place of the V3 byte.

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7. A bidirectional line switched ring network comprising:

a plurality of optical transmission equipment sets connected in a ring form,

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wherein optical transmission equipment provided in a node on the transmission side performs transmission to each higher-order channel by attaching a transmission-side

node ID, and,

optical transmission equipment provided in a node on the reception side collates the received transmission-side node ID with an expected value of the transmission-side node ID having been set in advance, and when the collation does not match, the optical transmission equipment in the node on the reception side prevents a misconnection in the event of a failure by inserting an alarm indication signal.

10           8. The bidirectional line switched ring network according to claim 7,

          wherein the transmission-side node ID is transmitted using the H3 byte.

15           9. The bidirectional line switched ring network according to claim 8,

          wherein, using the H3 bytes for three frames, the transmission-side node ID and a channel ID are additionally transmitted to each STS channel, so that the time slot interchange (TSI) of the STS channel is enabled in a pass-through node.

          10. A bidirectional line switched ring network comprising:

25           two bidirectional line switched ring networks each comprising a plurality of optical transmission equipment sets connected in a ring form, being interconnected with

lower-order channels including a work channel and a protection channel,

wherein, in regard to two nodes provided in each of the two bidirectional line switched ring networks, one node  
5 being connected to the lower-order work channel while the other node being connected to the lower-order protection channel, as an expected source node ID to be transmitted from a source node to the lower-order work channel, either an ID of a source node transmitting to the own node, or  
10 an ID of a source node transmitting to the node connected to the lower-order protection channel, is set.